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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,268	09/30/2003	Ben-Zion Friedman	P-6152-US	2063
49444 7590 02/14/2008 PEARL COHEN ZEDEK LATZER, LLP 1500 BROADWAY, 12TH FLOOR NEW YORK, NY 10036			EXAMINER LUONG, ALAN H	
			ART UNIT 4126	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,268

Applicant(s)

FRIEDMAN, BEN-ZION

Examiner

ALAN LUONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date May 31 2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The drawings are objected to because missing block 440 in Fig. 4 although the block 440 is described in specification (¶0032, line 6, 14). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance will result in the abandonment of the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another
filed in the United States before the invention by the applicant for patent or (2) a patent granted on

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an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1, 3, 6-8 and 22** are rejected under 35 U.S.C. 102(e) as being anticipated by US Publication No. 2002/0157110 published by Amshoff et al .

Regarding to claim1: Amshoff teaches a channel search method comprising:

initiating a channel search algorithm (a channel locking procedure) by a cable modem (a broadband demodulator) (US'110, ¶0015 and steps 201, 202 of Fig. 2);

applying a scans any set of frequencies (step 203 of Fig. 2, ¶0016 lines 10-18);
and an iteration counter (¶0018, steps 206-218 of Fig. 2) as a standard test (a predetermined criterion to interim operational data) for the channel search process (an act of said channel locking procedure)(see ¶0018 to ¶0023); and

determining whether a DOCSIS channel was found among the frequencies scanned at each steps below, all frequencies in the Downstream frequency band are scanned for a DOCSIS signal modulated at 64 or 256QAM; If such channel was found, the process proceeds to ranging/registration with the CMTS via the upstream channel (Fig. 2, see ¶0017 lines 3-5 (step 205), ¶0018 lines 10-13 (step 210), ¶0019 lines 8-10(step 213); ¶0020 lines 7-9 (step 216); ¶0022 lines 6-10 (step 221) and ¶0023)(said channel locking procedure), based on said predetermined criterion (¶0023).

Regarding to claim 3: Amshoff teaches the method of claim 1, wherein said act of said channel locking procedure is to determine a signal type of an incoming channel (US'110, ¶ 0014).

Regarding to claim 6: Amshoff teaches the method of claim 1, wherein the determining whether to continue said channel locking procedure includes using one or more selected QAM checks (Quadrature Amplitude Modulation checks) (US'110, ¶ 0014 lines 7-13).

Regarding to claim 7: Amshoff teaches the method of claim 1, further comprising initiating at least one channel locking procedure retry (step 203 of Fig. 2, ¶ 0015 lines 10-18).

Regarding to claim 8: In the method of claim 7 above, Amshoff also teaches counting a number of channel locking procedure retries (Steps 206 to 218 of Fig. 2, ¶ 0018 to ¶ 0022).

Regarding to claim 22. Amshoff discloses a cable network communication system:

a CMTS (102 of Fig. 1) (a cable modem termination system) to broadcast signals; and a cable modem (105 of Fig. 1) having incoming broadband channels (103 of Fig. 1) (a demodulator adapted to screen said broadcast signals) during a channel search algorithm (as a channel locking procedure)(see Fig. 1 and ¶0013).

4. Claims **12-15, 18 and 21** are rejected under 35 U.S.C. 102(e) as being anticipated by US Pub. No.:2002/0144286 published by Ovadia.

Regarding to claim12. Ovadia discloses an apparatus comprising:

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a cable modem 200 of Fig.2 (a broadband demodulator) to perform a channel locking procedure, said

receiver module (206 of Fig. 2) (a demodulator) having a channel detection agent (214 of Fig. 2)(a channel lock sensing mechanism) to determine whether to continue said channel locking procedure by applying a predetermined criterion to interim channel locking data resulting from an act of said channel locking procedure (US'286, ¶ 0018 and ¶ 0031 to ¶ 0033) .

Regarding to claim 13: The apparatus of claim 12 above, Ovadia discloses a controller manages operation of the channel detection agent (214 of Fig. 2) (said lock sensing mechanism) (US'286, ¶ 0022 and ¶ 0032).

Regarding to claim 14: Ovadia further discloses the apparatus of claim 12 above comprises a memory (210 of Fig. 2) to store instructions to enable operation of the channel detection agent (said lock sense mechanism) (US'286, ¶ 0035).

Regarding to claim 15: Ovadia also discloses a cable modem device, comprising:

a controller logic (202 of Fig. 2) to determine whether to continue locking onto an incoming channel by applying a predetermined criterion to interim operational data resulting from a channel detection method (an act of said channel locking procedure) (US'286, ¶ 0022) ; and

a QAM demodulator (310 of Fig. 3) to demodulate a signal received over said incoming channel (¶0030 lines 4-16).

Regarding to claim 18: Ovadia teaches a cable modem (200 of Fig. 2) comprising

a storage medium (210 of Fig. 2) having stored thereon instructions from controller logic (202 of Fig. 2)(¶0024) that, when executed by a processing platform (a channel detection agent 214 of Fig. 2), result in performing a channel detection and acquisition method (a channel locking procedure) by a broadband demodulator (receiver 206 of Fig. 2)(¶0032);

applying a predetermined criterion to interim channel locking data of said channel-locking procedure (¶0033), and

determining whether to continue said channel locking procedure, based on said predetermined criterion (¶0034, ¶0035).

Regarding to claim 21. In the article of claim 18 above, Ovadia teaches the conventional data detection and acquisition practices using the channel detection agent controls a QAM demodulator to determine a data channel. (¶0032 line 6 to ¶0035).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4, 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amshoff et al., in view of US Patent No. 6,038,433 issued to Vegt.

Regarding to claim 2: Amshoff teaches the method of claim 1, but fails to teach wherein said act of said channel-locking procedure is to determine a symbol rate of an incoming channel.

In the same of the scanned frequency channel for Cable modem, Vegt teaches a method of scan a frequency range for signal channel to determine a symbol rate of an incoming channel (For DVB signals the frequency range is 47-862 MHz, the symbol rate is 1-7 MS/s and the modulation type can be 16, 32, 64, 128 or 256 QAM (US'433, col. 2. lines 34-37).

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's symbol rate matching technique in search frequency range for desired channel in Amshoff's method; in order to automatically lock frequency channel in Cable modem communication network.

Regarding to claim 4: Amshoff teaches the method of claim 1, but fails to teach wherein applying said criterion comprises determining from said interim data whether a symbol rate of a channel matches a symbol rate required by said broadband demodulator.

In the same field of the scanned frequency channel for cable modem, Vegt teaches "In a receiver (said broadband demodulator) for digitally modulated signals it is desirable to have a fast automatic method for finding the signal channels in a frequency

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range. However, to receive a signal, the center frequency of the channel, the symbol rate and the modulation type have to be known" (US'433, col 1. lines 14-18). For DVB signals the frequency range is 47-862 MHz, the symbol rate is 1-7 MS/s and the modulation type can be 16, 32, 64, 128 or 256 QAM (col. 2. lines 34-37).

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's symbol rate matching technique in search frequency range for desired channel in Amshoff's method; in order to automatically lock frequency channel in Cable modem communication network.

Regarding to claim 9: In the method of claim 8 above, Amshoff fails to teach wherein if said number of channel locking attempts is less than a pre-selected threshold

Vegt teaches a method of scan a frequency range for signal channel wherein number of channel locking attempts is less than a pre-selected threshold (US'433 Abstract lines 1-11, col.3 lines 13-42), initiating a retry command.

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's comparing threshold level of CW signal technique in search frequency range for desired channel in Amshoff's method; in order to automatically lock frequency channel in Cable modem communication network.

Regarding to claim 10: Amshoff teaches the method of claim 8, but fails to teach wherein if said number of channel locking attempts is greater than a selected threshold, initiating a channel locking procedure using an alternative frequency.

Vegt teaches a method of scan a frequency range for signal channel wherein number of channel locking attempts is greater than a selected threshold, initiating a

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channel locking procedure using an alternative frequency. (see US'433, Abstract lines 12-20, col. 2 line 66 to col. 3 line 12).

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's comparing threshold level of CW signal technique in search frequency range for desired channel in Amshoff's method; in order to automatically lock frequency channel in Cable modem communication network.

7. Claim **5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Amshoff et al., in view of US Pub. No.:2002/0083465 published by Beek.

Regarding to claim 5: Amshoff teaches the method of claim 1, but fails to teach wherein applying said criterion comprises determining from the interim data whether a signal symbol spectrum picture of a channel matches a signal spectrum picture required by said broadband demodulator.

In the same CATV field, Beek discloses the acquire means for scanning the frequency band 12 in frequency steps which are substantially equal to QAM channel bandwidth 10 (see Fig. 2 and 3, also ¶0017 lines 10-24).

In light of Beek, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Beek's scanning channel bandwidth means with channel detection agent in the controller logic of Ovadia's cable modem; in order to fast acquire and detect a data QAM channel as a lock frequency channel in cable modem communication network.

8. Claims **16** and **19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ovadia, in view of Vegt.

Regarding to claim16: Ovadia teaches the device of claim 15, but fails to teach wherein said controller determines from said interim data of said channel-locking procedure whether a symbol rate of a channel matches a symbol rate required by a broadband demodulator (a cable modem device).

In the same field of the scanned frequency channel for cable modem, Vegt teaches "In a receiver (including controller) for digitally modulated signals it is desirable to have a fast automatic method for finding the signal channels in a frequency range. However, to receive a signal, the center frequency of the channel, the symbol rate and the modulation type have to be known" (US'433, col 1. lines14-18). For DVB signals the frequency range is 47-862 MHz, the symbol rate is 1-7 MS/s and the modulation type can be 16, 32, 64, 128 or 256 QAM (col. 2. lines 34-37).

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's symbol rate matching technique by controller in cable modem receiver in Ovidia's cable communication network; in order to automatically lock frequency channel by identify channel information in demodulation step.

Regarding to claim19: Ovadia teaches the cable modem in claim 18 above, but fails to teach the criterion comprises determining whether a symbol rate of a channel matches a symbol rate required by a broadband demodulator.

In the same field of the scanned frequency channel for cable modem, Vegt teaches "In a receiver (said broadband demodulator) for digitally modulated signals it is desirable to have a fast automatic method for finding the signal channels in a frequency

range. However, to receive a signal, the center frequency of the channel, the symbol rate and the modulation type have to be known" (US'433, col 1. lines14-18). For DVB signals the frequency range is 47-862 MHz, the symbol rate is 1-7 MS/s and the modulation type can be 16, 32, 64, 128 or 256 QAM (col. 2. lines 34-37).

In light of Vegt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Vegt's symbol rate matching technique in search frequency range for desired channel in Ovadia's article; in order to automatically lock frequency channel in cable modem communication network.

9. Claims **17 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ovadia, in view of US Pub. No.:2002/0083465 published by Beek.

Regarding to claim17. Ovadia discloses a cable modem device in claim 15, but fails to disclose a controller determines from said interim data of said channel-locking procedure whether a signal spectrum picture of a channel matches a signal spectrum picture required by the cable modem device.

In the same CATV field, Beek discloses the acquire means for scanning the frequency band.12 in frequency steps which are substantially equal to channel bandwidth 6MHz.(see Fig. 2 and 3, also ¶0017 lines 10-24).

In light of Beek, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Beek's scanning channel bandwidth means with channel detection agent in the controller logic of Ovadia's cable modem; in order to fast acquire a lock frequency channel in Cable modem communication network.

Regarding to claim 20. In the Ovadia' s article, fails to teach wherein applying the criterion comprises a signal symbol spectrum picture of a channel matches a signal spectrum picture required by a broadband demodulator.

In the same CATV-field, Beek discloses the acquire means for scanning the frequency band 12 in frequency steps which are substantially equal to channel bandwidth 6MHz.(see Fig. 2 and 3, also ¶0017 lines 10-24).

In light of Beek, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Beek's scanning channel bandwidth means with channel detection agent in the controller logic of Ovadia's cable modem; in order to fast acquire and detect a data QAM channel as a lock frequency channel in cable modem communication network.

10. Claims **11, 23, 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Amshoff et al., in view of Ovadia.

Regarding to claim 11: Amshoff teaches the method of claim 1, but fails to disclose completing the channel lock procedure if the predetermined criterion for continuing the channel lock procedure has been met .

In the same cable modem network field, Ovadia teaches the conventional data detection and acquisition practices using the channel detection agent controls a QAM demodulator to determine a data channel (¶0032 line 6 to ¶0035).

In light of Ovadia, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the conventional data detection and acquisition practices using the channel detection agent controls a QAM demodulator as

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taught by Ovadia in Amshoff's cable modem network; in order to rapidly complete the channel lock procedure if the predetermined criterion for continuing the channel lock procedure has been met.

Regarding to claim 23: In the cable network communication system of claim 22 above, Amshoff did not disclose the cable modem comprises a controller to execute instructions to screen said broadcast signals during searching channel (said channel locking procedure).

Ovadia, in the same cable modem field, discloses a cable modem device, comprising a controller logic (202 of Fig. 2) to execute instructions to screen said broadcast signals during searching channel (said channel locking procedure)(US'286, ¶ 0022).

In light of Ovadia, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine a cable modem structure including a controller logic as taught by Ovadia in Amshoff's cable modem network; in order to have the obvious disadvantage that it fixed in hardware, and for the operator to extend the range of available data channels would require a hardware fix in the cable modems. In this regard, the modems are not readily amenable to upgrade.

Regarding to claim 24, in the cable network communication system of claim 22 above, Amshoff fails to disclose wherein said cable modem comprises a memory unit to store instructions to screen said broadcast signals during said channel locking procedure.

In the same field of cable modem communication network, Ovadia discloses cable modem (200 of Fig. 2) comprises a memory unit (210 of Fig. 2) to store instructions to screen said broadcast signals during said channel locking procedure (see ¶0024, ¶0035).

In light of Ovadia, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine a cable modem structure including a memory as taught by Ovadia in Amshoff's cable modem network; in order to store the instructions from controller for screening broadcast signals during searching a QAM data channel. This structure has the obvious disadvantage that it fixed in hardware, and for the operator to extend the range of available data channels would require a hardware fix in the cable modems. In this regard, the modems are not readily amenable to upgrade.

Regarding to claim 25. Amshoff discloses the cable network communication system of claim 22, but fails to teach a cable modem rejects unwanted broadcast signals before said locking procedure is completed.

In the same CATV field, Ovadia teaches the channel detection agent (214 of Fig. 3) in receiver 206 of cable modem 200 (fig. 2) rejects unwanted broadcast signals before said locking procedure is completed (Fig. 5, step 502, ¶0045).

In light of Ovadia, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the channel detection agent to rejects unwanted broadcast signals before said locking procedure is completed as taught by Ovadia in

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Amshoff's cable modem network in order to rapidly detect and acquire data channels in the received broadband signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN LUONG whose telephone number is (571) 270-5091. The examiner can normally be reached on Mon.-Thurs., 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Chow can be reached on (571) 272-7767. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Dennis-Doon Chow/

Supervisory Patent Examiner, Art Unit 4126